

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Mikro Systems Inc.

GENEDGE ALLIANCE

Utilizing Services of GENEDGE ALLIANCE Improves Processes for Mikro Systems, Inc.

Client Profile:

Mikro Systems, Inc. is a high-technology manufacturer located in Charlottesville, Virginia. Mikro Systems has patented technology that facilitates the practical, low-cost manufacture of complex mechanical components and systems for a broad range of industries including aerospace, medical imaging, biomedical, electronics, recreational products and energy generation. Customers include international, high-technology companies, as well as government and academic institutions. Using their patented TOMO manufacturing technology, Mikro partners with these organizations to develop advanced high-performance products and manufacturing processes. The company employs 14 people.

Situation:

Until 2007 Mikro was primarily a research-based company focused on technology development and demonstration of concepts through prototype and small scale manufacturing. Mikro was awarded an SBIR Phase II grant by the National Institutes of Health (NIH) in 2005. In 2007, NIH entered into a partnership with NIST MEP in which companies who had been awarded SBIR Phase II grants were provided assistance in commercializing their processes. GENEDGE ALLIANCE, formerly Virginia's A.L. Philpott Manufacturing Extension Partnership (VPMEP), a NIST MEP network affiliate, was then introduced to Mikro as the service delivery provider. Through this grant, GENEDGE ALLIANCE assisted Mikro in moving toward commercial levels of production. The primary project objective was to facilitate implementation of Lean concepts, and to build on the Lean Six Sigma principles of DMAIC (Define Measure Analyze Improve Control). Specific goals included analysis of product capability to assist Mikro in setting realistic product specifications, assistance in implementing 5S (Sort, Set in Order, Shine, Standardize, Sustain)/Visual Workplace systems, and revisiting their Quality System.

Solution:

GENEDGE ALLIANCE performed an initial assessment of Mikro's existing quality system and made recommendations for upgrading documentation of its processes and systems and development of an audit system in place. GENEDGE ALLIANCE provided training in Value Stream Mapping (VSM) to a cross section of the organization. In addition, GENEDGE ALLIANCE performed a SIPOC (Supplier Input Process Output Customer) analysis to identify both internal and external stakeholders and customers to the process. GENEDGE ALLIANCE facilitated the construction of a Current State Map, identifying those parts of the process that would be considered customer value added, business value added, and non-value added. The project approach utilized the concepts of Lean Six Sigma and the DMAIC process approach to improve process cycle efficiency (the ratio of value added time to total lead time), and expand upon the training Mikro had already received in the areas of VSM, Supply Chain Management and 5S/Visual Workplace. Finally, a Future State Map was constructed incorporating lessons learned.

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Results:

- * Realized \$500,000 in cost savings.
- * Increased throughput by 90 percent.
- * Increased product quality and reliability by 40 percent.
- * Increased capacity by 93 percent.

Testimonial:

"GENEDGE ALLIANCE is a great organization with outstanding people -- they were a pleasure to work with! The training they provided helped MIKRO make the difficult transition from research to commercialization, and had a significant impact on our company and all of our employees. GENEDGE ALLIANCE is a resource that we intend to keep using as we grow and our needs change."

Jim Atkinson, Vice President